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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,362	07/08/2003	Lucy G. Hosking	9775-0157-999	2325

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EXAMINER

LEUNG, CHRISTINA Y

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,362

Applicant(s)

HOSKING ET AL

Examiner

Christina Y. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11, 13-19 and 23 is/are allowed.
- 6) ☒ Claim(s) 20-22 is/are rejected.
- 7) ☒ Claim(s) 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10-5-05; 2-3-06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 05 January 2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kollanyi et al. (US 4,809,286 A) in view of King et al. (US 5,812,572 A).

Regarding claim 20, Kollanyi et al. disclose an optoelectronic transceiver (Figures 1 and 2) comprising:

- an optoelectronic transmitter (laser 160);
- an optoelectronic receiver (optical detector 110);
- a laser driver 170 electrically coupled to the optoelectronic transmitter;
- a post amplifier 120 electrically coupled to the optoelectronic receiver;
- a first controller integrated circuit (laser DC bias control 150) electrically coupled to the laser driver, where the first controller IC is configured to supply a direct current (DC) bias

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current control signal to the laser driver causing the laser driver to supply DC bias current to the optoelectronic transmitter (column 3, lines 45-48);

a second controller IC (data driver 180) electrically coupled to the laser driver to supply an alternating current (AC) control signal to the laser driver causing the laser driver to supply modulation current to the optoelectronic transmitter (column 4, lines 17-24).

Examiner respectfully notes that data driver 180 outputs what is described by Kollanyi et al. as an “AC modulation signal” to laser driver 170 (column 3, lines 34-44 and lines 56-62; column 4, lines 26-44). This signal output from data driver 180 is a control signal in the sense that laser driver 170 supplies modulation current to the transmitter in response to the AC modulation signal from data driver 180.

Kollanyi et al. disclose circuits for providing control signals related to DC bias current and AC modulation current, respectively, to the laser driver, but they do not specifically disclose that the DC bias current has a predetermined level determined by the DC bias current control signal or that the modulation current has a modulation level determined by the AC current control signal

However, King et al. teach a system related to the one disclosed by Kollanyi et al. including an optical transmitter with a laser driver circuit (Figure 1). King et al. further teach generally providing a DC bias current control signal and an AC modulation current control signal to control the currents of laser to predetermined levels (column 6, lines 62-66; column 7, lines 3-31). It would have been obvious to a person of ordinary skill in the art to further provide current control signals that set the laser currents to predetermined levels as suggested by King et al. in

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the circuitry disclosed by Kollanyi et al. in order to more effectively control and maintain the laser output within a desired range of values.

4. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kollanyi et al. in view of King et al. as applied to claim 20 above, and further in view of Traa (US 6,222,660 B1).

Regarding claim 21, Kollanyi et al. in view of King et al. describe a system as discussed above with regard to claim 20 and Kollanyi et al. further disclose that the optoelectronic receiver includes a photodetector 110, but they do not specifically disclose an avalanche photodiode coupled to a APD power supply. However, Traa teaches a system related to the one disclosed by Kollanyi et al. including an optoelectronic receiver (Figure 1). Traa further teaches an avalanche photodiode (APD 10) coupled to an APD power supply (voltage supply 12) coupled to a controller IC 18 configured to supply an APD power supply control signal to the APD power supply causing the APD power supply to supply an APD voltage to the APD (column 2, lines 37-54). It would have been obvious to a person of ordinary skill in the art to include an avalanche photodiode and APD power supply as taught by Traa in the system described by Kollanyi et al. in view of King et al. in order to optimize the power of the optoelectric receiver and thereby prevent excessive noise output (as Traa teaches; column 1, lines 5-39).

5. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kollanyi et al. in view of King et al. as applied to claim 20 above, and further in view of Thorton (US 2004/0202210 A1).

Regarding claim 22, Kollanyi et al. in view of King et al. describe a system as discussed above with regard to claim 20 and Kollanyi et al. further disclose that the optoelectronic

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transmitter includes a temperature controller 140 (Figure 2), but they do not specifically disclose a thermoelectric cooler (TEC) and TEC driver. However, Thorton teaches a system related to the one described by Kollanyi et al. in view of King et al. including a transmitter controller (Figure 3). Thorton further teaches a thermoelectric cooler 326 (page 4, paragraph [0049]) coupled to a TEC driver (temperature control 342) coupled to a controller IC (i.e., “control unit” as shown in Figure 3) configured to supply a TEC control signal to the TEC driver causing the TEC driver to control the TEC. It would have been obvious to a person of ordinary skill in the art to include a temperature controller and driver as taught by Thorton in the system described by Kollanyi et al. in view of King et al. in order to stabilize the temperature of the laser and thereby stabilize the output of the transmitter.

Allowable Subject Matter

6. Claims 1-11, 13-19, and 23 are allowed.
7. Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art, including Kollanyi et al. and King et al., does not specifically disclose or fairly suggest an optoelectronic transceiver including the combination of all the elements and limitations recited in independent claims 1 or 23, or dependent claim 24 (including all the limitations of claim 20 on which claim 24 depends), particularly including two controller integrated circuits each comprising memory configured to store diagnostic data corresponding to operating conditions of the transceiver, wherein at least some of the diagnostic data is common

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to both ICs, as specifically recited and in further combination with the other elements recited in the claims.

Additional reasons for the indication of allowable subject matter with respect to claim 23 were also given in previous Office Actions.

Response to Arguments

9. Applicants' arguments filed 05 January 2006 with respect to claims 20-22 in particular have been fully considered but they are not persuasive.

10. Examiner respectfully disagrees with Applicants' assertion on page 10 that Kollanyi et al. do not disclose a second controller IC as recited in claims 20-22. Examiner respectfully notes that data driver 180 outputs what is described by Kollanyi et al. as an "AC modulation signal" to laser driver 170 (column 3, lines 34-44 and lines 56-62; column 4, lines 26-44). This signal output from data driver 180 is a control signal in the sense that laser driver 170 supplies modulation current to the transmitter in response to the AC modulation signal from data driver 180. Therefore, data driver 180 is a "controller" element that supplies a control signal to the laser driver.

11. Further regarding claim 20, in response to Applicants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Specifically, Examiner respectfully notes that the rejection of claim 20 is based on a combination of Kollanyi et al. in view of King et al.; as discussed in greater detail above, the features of claim 20 that are not disclosed by Kollanyi et al. are taught by King et al.

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12. Also, Examiner respectfully disagrees with Applicants' assertion on page 11 of their response that "independent claim 20, and its dependent claims 21-22, cannot be unpatentable over the combination of King and Kollanyi, as these references alone or in combination do not disclose, teach or suggest a memory configured to store digital diagnostic data corresponding to operating conditions of the optoelectronic transceiver." In response to Applicants' argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., memory configured to store diagnostic data) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


CHRISTINA LEUNG
PRIMARY EXAMINER